

2020 Annual Report (June 2019 – May 2020)

CASCOM Technical Committee

IEEE Circuits and Systems Society

TC Chair: Joseph R. Cavallaro; Chair-elect: Hanho Lee;
Secretary: Máire O'Neill; Secretary-elect: Chuan Zhang

TC website: <https://www.ieee-cas.org/community/technical-committees/circuits-and-systems-communication-technical-committee>

1. Executive Summary

The Circuits and Systems for Communications (CASCOM) technical committee of the IEEE Circuits and Systems Society is a multi-disciplinary group of technical leaders in many fields of communication systems. The Technical Committee currently has 83 members from academia and industry with diversity across many of the IEEE regions worldwide.

At the ISCAS conference, the CASCOM TC is associated with Track 3. Currently Track 3 has 12 sub-tracks reflecting the current technical interests of the TC. These sub-tracks include: Communications Circuits and Systems, Wireline Communications, Wireless Communications, Optical Communications, Broadband Communication Systems, MIMO and Massive MIMO, Modeling and Analysis of Communication Systems, Software Defined and Cognitive Radio Systems, Error Correcting Codes, Cryptography and Cyber-Security, Sensor Networks, Applications of Nonlinear Dynamics to Communications, and Other Areas in Communication Circuits and Systems. The TC periodically reviews the sub-tracks at ISCAS to reflect new areas of research interest. For instance, the areas of MIMO and Massive MIMO and Cryptography and Cyber-Security are relatively new additions based on member interest. The CASCOM TC members span a wide variety of interests from analog and digital circuits for communications including areas such as power amplifier design and emerging circuits for millimeter wave communication systems. There is also research interest in reduced precision analog to digital converter design as ADC power consumption is often a key challenge in battery powered communication systems. With the increased concern on system security, cyber-security at both the physical layer and also the medium access control and network layers is of major importance. The areas of sensor networks and the Internet of Things (IoT) are also of research interest to many in the CASCOM TC as these areas combine many layers of communications with application processors and System on Chip (SoC) design. We anticipate that the new area of machine learning for communication systems many be added to the CASCOM track soon.

In addition to their membership in the CASCOM TC, many members are active in the DSP TC as many challenges in physical layer communications, whether it be filter design or channel estimation, equalization, or detection build upon digital signal processing principles. CASCOM TC members are also often members of the VLSI Systems and Applications (VSA) TC as many modern communication systems are implemented with VLSI technology. Finally, the Analog Signal Processing TC also shares many members with the CASCOM TC especially in the areas of radio frequency (RF) circuit design from phase locked loops and up and down converters to power amplifiers. Beyond the IEEE Circuits and Systems Society, many CASCOM TC members are active in the IEEE Signal Processing Society in the Design and Implementation of Signal Processing Systems (DISPS) and the Signal Processing for Communications and Networking (SPCOM) TCs. Members of this TC are also active in the IEEE Communications Society in the Signal Processing & Communications Electronics (SPCE) TC and also in the IEEE Computer Society and the IEEE Solid State Circuits Society.

In reviewing the service that the CASCOM TC members reported, service to the IEEE Circuits and Systems Society is visible as review committee members for ISCAS as well as Associate Editors for CASS journals and current and former Distinguished Visitors. Also, service to other IEEE societies as Associate Editors in Signal Processing and Computer Society journals is indicated. In summary, the CASCOM TC members have broad interests in wireless, wireline, and optical communication systems, circuits, and networks and this diversity is evident in their activities in other CASS TCs and in other IEEE Societies. Section 2 details the 2019 TC committee meeting while section 3 lists the TC members who submitted reports and section 4 describes their reported activities.

2. Technical Committee Meeting

The CASCOM Technical Committee in the IEEE Circuits and Systems Society organizes an annual TC meeting at the IEEE ISCAS conference. The most recent meeting was held in Sapporo, Japan, 28 May 2019. We had 27 TC members in attendance and met quorum.

2.1 TC membership and appointments

The TC co-chair members (2-year period) until ISCAS 2020 are as follows:

- TC Chair – Joseph Cavallaro (Rice University, USA)
- TC Vice-Chair (Chair-Elect) – Hanho Lee (Inha University, South Korea)
- TC Secretary – Maire O'Neill (Queens University of Belfast, N. Ireland)
- TC Secretary-elect – Chuan Zhang (Southeast University, China)

CASCOM had 77 TC members before ISCAS 2019. The following six candidates in attendance were voted for by the TC members at the TC meeting at ISCAS'2019 in Sapporo, Japan, bringing the total CASCOM membership to 83.

- Prof. Vanessa Chen, Ohio State University, OH, US - attending
- Prof. Junghwan Han, Chungnam National University, Daejeon, Korea - attending
- Prof. Hoyoung Yoo, Chungnam National University, Daejeon, Korea - attending
- Prof. Yuan-Hao Huang, National Tsing Hua University – Taiwan - attending
- Prof. Pei-Yun Tsai, National Taiwan University, Taoyuan, Taiwan - attending
- Prof. Jiafeng Xie, Villanova University, PA, US - attending

Of the current 83 CASCOM TC members, 24 members reported on their activities, as detailed in section 3.

2.2. ISCAS 2020 involvement

The CASCOM track (Track 3) received 95 papers in 12 sub-tracks. Of the 95 papers that were submitted to our track, 52 papers were accepted (55% acceptance rate) with 23 papers in 4 lecture sessions and 29 papers in 2 poster sessions.

Three TC members served as CASCOM track co-chairs:
Joseph R. Cavallaro, Hanho Lee and Maire O'Neill.

The following 12 TC members were scheduled to serve as CASCOM session chairs:
Keshab K. Parhi, Zhongfeng Wang, Maire O'Neill, Wei Xing Zheng, Chuan Zhang, Youngjoo Lee, Hanho Lee, Pei-Yun Tsai, An-Yeu (Andy) Wu, Xinming Huang, Hoyoung Yoo, Kyung Ki Kim.

55 TC members served as 2020 CASCOM track Review Committee Members. The total list of 55 Review Committee Members is as follows:

Hassan Aboushady, Khaldoon Abugharbieh, Shan Cao, Kheong Sann Chan, Vanessa Chen, Jaehyouk Choi, Sri Navaneeth Easwaran, Junghwan Han, Xinming Huang, Yuan-Hao Huang, Jin-Ku Kang, Ji-Hoon Kim, Kyung Ki Kim, Jun Jin Kong, Shoba Krishnan, Jae Ha Kung, Yingjie Lao, Chang-Ho Lee, Youngjoo Lee, Jun Lin, Liang Liu, Weiqiang Liu, Hsi-Pin Ma, Shaodan Ma, Gabriele Manganaro, Tokunbo Ogunfunmi, Vassilis Paliouras, Jongsun Park, Susanto Rahardja Vyasa Sai, Jin Sha, Ming-Der Shieh, Gerald E. Sobelman, Christoph Studer, Murat Torlak, Pei-Yun Tsai, Lan-Da Van, Miroslav Velez, Zhongfeng Wang, An-Yeu Andy Wu, Yik-Chung Wu, Jiafeng Xie, Zhiyuan Yan, Hoyoung Yoo, Qiaoyan Yu, Bo Yuan, Chuan Zhang, Jingyi Zhang, Tong Zhang, Xinmiao Zhang, Danella Zhao

3. Members submitted Annual Reports

First Name	Last Name	Affiliation	Email	IEEE Region
Wael	Badawy		badawy@badawy.ca	Region 7
Shan	Cao	Shanghai University, China	cshan@shu.edu.cn	Region 10
Joseph	Cavallaro	Rice University, US	cavallar@rice.edu	Region 5
Vanessa	Chen	Carnegie Mellon University, US	vanessachen@cmu.edu	Region 2
Sri Navaneeth	Easwaran	Texas Instruments, US	s-easwaran@ti.com	Region 5
Pui-In Mak	Elvis	University of Macau, China	pimak@um.edu.mo	Region 10
Junghwan	Han	Chungnam National University, S.Korea	jh.han@cnu.ac.kr	Region 10
Alexander	Korotkov	St.Petersburg Polytechnic University, Russia	korotkov@spbstu.ru	Region 8
Yingjie	Lao	Clemson University, US	ylao@clemson.edu	Region 4
Hanho	Lee	Inha University, S.Korea	hhlee@inha.ac.kr	Region 10
Youngjoo	Lee	Postech, S.Korea	youngjoo.lee@postech.ac.kr	Region 10
Weisi	Lin	Nanyang Technological University, Singapore	WSLin@ntu.edu.sg	Region 10
Liang	Liu	Lund University, Sweden	liang.liu@eit.lth.se	Region 8
Weiqiang	Liu	Nanjing University of Aeronautics and Astronautics (NUAA), China	liuweiqiang@nuaa.edu.cn	Region 10
Máire	O'Neill	Queen's University Belfast, N. Ireland	M.oneill@ecit.qub.ac.uk	Region 8
Vyasa	Sai	Intel, US	sai.vyasa@gmail.com	Region 6
Gerald	Sobelman	University of Minnesota, US	sobelman@umn.edu	Region 4
Christoph	Studer	Cornell University, US	studer@cornell.edu	Region 1
Yichuang	Sun	University of Hertfordshire, UK	y.sun@herts.ac.uk	Region 8
Pei-Yun	Tsai	National Central University, Taiwan	pytsai@ee.ncu.edu.tw	Region 10
Lan-Da	Van	National Chiao Tung University, Taiwan	ldvan@cs.nctu.edu.tw	Region 10
Bo	Yuan	Rutgers University, US	bo.yuan@soe.rutgers.edu	Region 1
Tong	Zhang	Rensselaer Polytechnic Institute, US	tzhang@ecse.rpi.edu	Region 1
Xinmiao	Zhang	Ohio State University, US	zhang.8952@osu.edu	Region 2

3. Accomplished Technical Activities

3.1. IEEE Conference/Event organizations

Your Name	Conference Sponsors	Conference/Event Title	Your Role
J Cavallaro	IEEE CAS	54th IEEE Asilomar Conference on Signal, Systems, and Computers, Pacific Grove, CA, 2020 IEEE Workshop on Signal Processing Systems, SiPS, 2020, Coimbra, Portugal, 2020 2020 ISCAS Circuits and Systems for Communications, Seville, Spain, 2020 2020 IEEE Workshop on Signal Processing Systems, Coimbra, Portugal, 2020 2020 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), DiSPS Track, Barcelona, Spain, 2020 2019 Signal Processing for Communications Symposium, 2019 IEEE Global Communications Conference (GLOBECOM), Waikoloa, HI, 2019 2019 IEEE Workshop on Signal Processing Systems, Nanjing, China, 2019	General Chair General Co-Chair Track Co-Chair Program Committee Review Committee Member Program Committee Program Committee
M O'Neill		ISCAS 2020 ISCAS 2020 ISCAS 2020 – Circuits and Systems for Communications UK RISE Annual Conference 2019, November 2019	Review committee member Paper Reviewer Track Chair General Chair
J Han		ISCAS 2020	Participated as RCM Participated as reviewer
V Chen		ISCAS 2020	Review committee member
W Badawy		ISCAS 2020 Niles Conference 2020, Egypt	Reviewer and session chair Conference committee member
B Yuan		ISCAS 2020 DAC, ICCD, ISVLSI, ICPC	Participated as RCM Participation in conference committees
S Cao		ISCAS 2020 SiPS 2019	Participated as RCM Special session chair
L Van		IEEE International System-on-Chip Conference (SOCC) 2019 Session Title: SOC Architecture and Circuit for IoT Applications (with Prof. Terng-Yin Hsu) ISCAS 2020	Publicity Co-Chair & Special Session Organiser Participated as RCM
L Liu		ISCAS 2020	RCM and Review/Special Session Organiser
Y Lao		ISCAS 2020	Participated as RCM
H Lee		IEEE CASCOM TC VLSI Systems and Applications (CASVSA) Technical Committee, IEEE Circuits and Systems Society IEEE Circuits and Systems Society Seoul Chapter 2019 International Symposium on Circuits and Systems (ISCAS 2019), Sapporo, Japan, May 26-29, 2019 2019 International SoC design conference (ISoCC 2019)	Chair-Elect Member Secretary Session Chair Special Session Chair
Y Lee		ISCAS 2020 IEEE A-SSCC 2019 ISoCC 2019	RCM, Review, Session Chair Session Chair Session Chair
V Sai		ISCAS 2020	RCM and Reviewer
G Sobelman		ISCAS 2020	Participated as RCM

S Easwaran		ISCAS 2020 MWSCAS 2020 BCICTS (2020 to 2024 term)	RCM/Manuscript reviewer TPC Track co-chair and manuscript reviewer Nominated TPC member
C Studer		ISCAS 2020 Asilomar 2019 IEEE SiPS 2019	RCM Technical Chair Technical Chair
Y Sun		ISCAS for ASPTC, 2020	RCM Member
P Tsai		ISCAS 2020	RCM Member Session Chair
W Liu		ISCAS 2020 IEEE Symposium on Computer Arithmetic (ARITH 2020)	RCM and Reviewer Program Co-Chair
T Zhang		ISCAS 2020	RCM Member
X Zhang		ISCAS 2020 SiPS 2019 ICC (IEEE International Conference on Communications)	RCM Member TPC Chair Track Chair

3.3. IEEE Journal Editorships:

Your Name	Journal Sponsors	Journal Title	Your Role
J Cavallaro	IEEE CAS	IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2020 IEEE Transactions on Circuits and Systems I (TCAS-1) Special Issue on the 2019 IEEE International Symposium on Circuits and Systems, 2019 Journal of Signal Processing Systems (JSPS) 2019, 2020	Senior Area Editor Guest Co-Editor Associate Editor
M O'Neill		IEEE Transactions on Computers IEEE Transactions on Emerging Topics in Computing	Associate Editor Associate Editor
V Chen		IEEE Open Journal of Circuits and Systems, 2019 - Present	Associate Editor
W Badawy		"International Journal of Computer Theory and Engineering (IJCTE)"	Editor in Chief
B Yuan		Springer Journal of Signal Processing System	Associate Editor
L Van		ACM Computing Surveys Jan. 2020 ~ present IEEE Access Feb. 2018 ~ present Journal of Medical Imaging and Health Informatics Aug. 2017 ~ present	Associate Editor Associate Editor Board Member
L Liu		Special section on "Circuits, Systems, and Algorithms for Beyond 5G and towards 6G" in IEEE Open Journal of Circuits and Systems	Guest Editor
P Elvis		IEEE Journal of Solid-State Circuits IEEE Solid-State Circuits Letters	Associate Editor Associate Editor
V Sai		IEEE Communications Magazine IEEE Access Elsevier's Computers and Electrical Engineering Elsevier's Computer Communication	Series Editor Associate Editor Associate Editor Guest Editor
C Studer		IEEE OJCAS	Associate Editor
Y Sun		Special Issue on Cognitive and AI-enabled Wireless and Mobile Communications, IET Communications, 2019-2020. IEEE Transactions on Circuits and Systems-I: Regular Papers ETRI Journal Journal of Semiconductors Journal of Sensor and Actuator Networks	Guest Editor (lead) Associate Editor Editor Editor Editor

P Tsai		Journal of Signal Processing Systems Journal of Signal Processing Systems (JSPS) Special Issue on "Design and Implementation of Signal Processing for Advanced Wireless Communication Systems"	Associate editor Guest editor
W Liu		IEEE Transactions on Circuits and Systems I: Regular Paper (2020.1-2021.12) IEEE Transactions on Emerging Topic in Computing and Computers (2019.5-2021.4) Proceedings of the IEEE (2019.11-2020.10)	Associate Editor Associate Editor Guest Editor
W Lin		Quality and User Experience, Springer Journal of Visual Communication and Image Representation	Editorial Board Editorial Board
X Zhang		OJCAS Special Section Springer Journal of Signal Processing Systems Special Section	Guest Editor Guest Editor
A Korotkov		Radioelectronics and Communications Systems, Kiev, Ukraine Computer Science, Telecommunications and Control Systems, St. Petersburg, Russia	Editorial Board member Editorial Board member

3.4. Awards, Honors, and Recognition

(Fellow, Distinguished Lecturer, Outstanding Service, Best Paper Awards, and so on by the CAS Society)

Your Name	Awards / Honors / Recognition	Period
M O'Neill	Elected Fellow of the UK Royal Academy of Engineering Assigned prestigious Regius Professorship in Electronics and Computer Engineering at Queen's University Belfast	September 2019 2020
V Chen	NSF Faculty Early Career Development (CAREER) Award, National Science Foundation	2019
W Badawy	Award of Appreciation for the contribution to Gate4SPIICE Event, INTACS / 2019-11-26/27-Gate4SPIICE Event "Future of SPIICE in High Technology Environments". Award for the contribution to the International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC) 2019 Award, University of Alexandria in recognition to contribution to ICT OUR LIVES Most cited paper over 5 years in the IEEE Transaction on Circuits and Systems for Video Technology JCR Impact Factor : 3.599 Scopus H-index : 148, Guide2Research Overall Ranking : 84	2019 2019 2019 2018
P Elvis	Best Paper Award, IEEE Asia Pacific Conference on Circuits and Systems (APCCAS), 2019	2019
V Sai	Outstanding Scientist at Annual Research Meet 2019, India	2019
G Sobelman	Appointed as a CAS Society Distinguished Lecturer	2020-2021
W Lin	Highly Cited Researcher 2019 (awarded by Web of Science)	November 2019
T Zhang	IEEE Fellow	(Class 2020)

3.5. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
J Cavallaro	National Chiao Tung University, Department of Computer Science, Hsinchu, Taiwan	Invited Lecture	"Advances in Wireless Communication Systems for the Internet of Things: Algorithms, Architectures, and Testbeds,"	October 17, 2019
	National Taiwan University, Department of Electrical Engineering &	Invited Lecture	"Advances in Wireless Communication Systems for the	October 15, 2019

	Graduate Institute of Electronics Engineering, Taipei, Taiwan National Chiao Tung University, Department of Computer Science, Hsinchu, Taiwan	Invited Lecture	Internet of Things: Algorithms, Architectures, and Testbeds," "POWDER-RENEW: A Shared Software-Defined Massive MIMO Testbed,"	October 14, 2019
M O'Neill	Cyber Security Transatlantic Policy Forum, Killarney, Ireland Queen's University Belfast NI Science Festival	Invited panelist TEDx talk Invited panelist	'Spies and Dolls – The Future of IoT Security'	May 2019 May 2019 February 2020
V Chen	IEEE Asian Solid-State Circuits Conference, Macao, China	Panel Discussion	"Are Analog and Mixed Mode Circuits the Future Solution of AI SoCs?,"	November 05, 2019
W Badawy	Gate4SPICE Event "Future of ASPICE in High Technology Environments" Giza, Egypt International Japan-Africa Conference on Electronics, Communications and Computations (JAC-ECC) 2019 Alexandria, Egypt The 14th IEEE International Conference on Computer Engineering and Systems (ICCES 2019) ICT IN OUR LIVES-2019, Alexandria, Egypt	Plenary Speaker Invited speaker Plenary Speaker Keynote Speaker	"When will I get my driver seat back? – The Future of Autonomous Vehicles" "Behaviour Emotion Engagement Trigger: The Future of Artificial Intelligence in Content to Audience Management" "Measuring Content Engagement – The Future of Artificial Intelligence in Media Production" "AI empowered content generation and the influence of Behavior Emotion Engagement Triggers: A prospective of the future of media and publishing production"	November 26/27, 2019 December 15-16, 2019 December 17-18, 2019 December 21, 2019
B Yuan	Fudan University, Huazhong University of Science and Technology	Invited talk		
L Van	Nanyang Technological University (NTU), Singapore,. [Jointly organized by IEEE Circuits and Systems Singapore Chapter & IEEE Signal Processing Singapore Chapter & Centre for Infocomm Technology (INFINITUS), School of EEE, NTU]	Invited talk	"Efficient FastICA Algorithms and Architectures for EEG Signal Separation"	Sep. 03, 2019
P Elvis	The 2nd IEEE International Conference on Integrated Circuits, Technologies and Applications (ICTA), Chengdu, China	Invited talk	Pui-In Mak "Towards Energy-Autonomous Bluetooth-Low-Energy Radios for IoT Applications,"	Nov. 2019
G Sobelman	University of the Philippines Diliman, Manila, Philippines IEEE CAS Society Virtual Distinguished Lecturer Webinar	Invited talk Invited talk	"Machine Learning and Optimization for Communications and Deep Networks" "Machine Learning and Optimization for Communications and Deep Networks"	February, 2020 May, 2020
S Easwaran	MWSCAS CICC	Invited Tutorial Invited Forum Talk	Design Techniques for Reliable High Voltage Gate Drivers for Automotive Applications	August 2019 March 2020

	DCAS	Invited talk	Electronics for Vehicles of the Future: Gate Drivers Webinar on High Voltage Automotive IC Design	March 2020
C Studer	eWorkshop for Semiconductor Research Council (SRC) Nokia-Bell Labs, Murray Hill, NJ		"Massive MIMO with Low-Precision Data Converters," "From Theory to Practice with hardware-Aware Baseband-Processing Algorithms."	2019 2019
W Liu	IEEE International Conference on Nanotechnology, pp. 487-488, Macau, China	Invited talk	"Majority Logic based Approximate Computing"	July 2019
W Lin	IEEE Int'l Conf. on Image Processing (ICIP) Workshop on Content-Aware Video Analysis (CAVA), in the 16th IEEE International Conference (AVSS)	Tutorial Keynote	Evaluating and Processing Partially-Artificial Images Visual Saliency & Quality Estimation with 2D and 3D Cues	September 2019 September 2019
X Zhang	ISCAS 2020	Review lecture		2020

3.6. Other distinguished IEEE services

(For example, CAS BoG, Region/chapter leadership, TC chairs/secretary)

Your Name	Organization	Position/Activities	Period
J Cavallaro	CNS Division, CISE, National Science Foundation IEEE Circuits and Systems Society, Houston, TX IEEE Circuits and Systems Society, TC on Communications (CASCOM) IEEE Computer Society Technical Committee on VLSI IEEE Signal Processing Society Design and Implementation Technical Committee Class of 2020 IEEE Computer Society Fellow Evaluation Committee IEEE Communications Society Signal Processing for Communications and Electronics Technical Committee (SPCE TC), and Cognitive Networks (TCCN) IEEE USA R&D Technical Committee, IEEE CAS Society Representative IEEE Council on RFID IEEE Eta Kappa Nu - Theta Rho Chapter at Rice University IEEE Chapter at Rice University	Review Panelist Chapter Chair Chair Award Committee Chair Advisory Board Member Member Member Member CASS Representative Student Branch Advisor Student Branch Advisor	2020 2019, 2020 2019, 2020 2020 2019, 2020 2020 2019, 2020 2020 2019, 2020 2019, 2020
M O'Neill	ACM Global Technology Policy Council UK AI Council UK Royal Academy of Engineering's (RAEng) research committee Royal Irish Academy's Engineering and Computer Sciences Committee UK Royal Academy of Engineering (RAEng) Research Fellowship Steering Group	Member Member Member Member Deputy Chair	2019 2019 2017-2020 2018 -2022 2019-2021
V Chen	IEEE Custom Integrated Circuits Conference IEEE Asian Solid-State Circuits Conference IEEE Circuits and Systems Society (CASS) Analog Signal Processing Committee IEEE Circuits and Systems Society (CASS) Circuits & Systems for Communications Committee	TPC Member TPC Member Committee Member Committee Member	2019 – Present 2019 – Present 2019 – Present 2019 – Present
B Yuan	GLSIVLSI	Special session chair	

S Cao	Nomination of new members to IEEE CASCOM TC		
L Van	IEEE International Symposium on Circuits and Systems (ISCAS) (VLSI Systems and Applications) IEEE International Symposium on Circuits and Systems (ISCAS) (Circuits and Systems for Communications) IEEE International Symposium on Circuits and Systems (ISCAS) (Nanoelectronics and Gigascale Systems) IEEE Nordic Circuits and Systems Conference (NORCAS) IEEE International Conference on Electronics, Circuits and Systems (ICECS)	TC Member TC Member TC Member TPC Member TPC Member	2019 2019
L Liu	IEEE NORCAS 2019 IEEE Sweden Solid-State Circuits/Circuits & Systems Joint Chapter	Technical/Reviewer Committee Member Board Member	2019
Y Lao	ICCAD, ICMLA, MLSP, SiPS, ISVLSI, AsianHost, AICAS. SiPS 2019	Program Committee Member Special Session Organizer	2019
H Lee	IEEE Circuits and Systems Society IEIE Semiconductor Society	Board of Governor member Vice President	2020-2022
Y Lee	IEEE A-SSCC 2019 ISOCC 2019	TPC Member OC Member, TPC Member	2019 2019
P Elvis	IEEE A-SSCC 2019	TPC member	2019
V Sai	IEEE IoT Journal, Elsevier's Microprocessors and Microsystems, Elsevier's Computer Communication, etc.	Reviewer	
G Sobelman	IEEE International Workshop on Signal Processing Systems (SiPS) IEEE International Conference on ASIC (ASICON) International Conference on Electronics, Circuits and Systems (ICECS)	TPC member TPC member TPC member	2019 and 2020 2019 2019 and 2020
C Studer	ESSCIRC 2019 IEEE GLOBECOM 2019 IEEE ISWCS 2019 IEEE SPAWC 2019	TPC member TPC member TPC member TPC member	2019 2019 2019 2019
Y Sun	European Conference on Circuit Theory and Design (ECCTD), 2020 IEEE Global Communications Conference (GLOBECOM) IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) IEEE Circuits and Systems Society Analog Signal Processing Technical Committee (ASPTC) IEEE Circuits and Systems Society Circuits and Systems for Communications Technical Committee (CASCOMTC) IEEE Communications Society Wireless Communications Technical Committee (WTC) IEEE Communications Society Radio Communications Committee (RCC)	TPC member TPC member TPC member Member Member Member Member	2020 2019, 2020 2019, 2020
P Tsai	IEEE (ISCAS) (Circuits and Systems for Communications) IEEE (ICASSP) (Design and Implementation of Signal Processing Systems) IEEE Asian Solid-State Circuits Conference IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)	TC Member TC Member TPC Member of sub com. Session chair	2019 2019 2020
W Liu	ARITH, DATE, ASP-DAC, ASAP, ISVLSI, GLSVLSI, AsiaHOST, NANORACH, AICAS, and SiPS.	Participation in conference committees.	2019-2020

	IEEE Transactions on Multi-Scale Computing Systems (2018.1-2019.12)	Steering Committee Member	
X Zhang	CAS BoG Data Storage TC, IEEE Communications Society	Member Vice Chair	
A Korotkov	Russia IX Conference Problems of Advanced Micro- and Nanoelectronic Systems Development, Moscow IEEE International Conference on Electrical Engineering and Photonics (EExPolytech), St. Petersburg, Russia International Youth Conference on Electronics, Telecommunications and Information Technologies (YETI), St. Petersburg, Russia	TPC Member TPC Member TPC Member	On-line May-Nov 2020 October 17-18, 2019 July 11-12, 2019

3.7 Other relevant professional activities

Name	Activity
V Chen	Workshop Organizer, NSF Workshop on Security in RF/Analog Microelectronics and Electromagnetics, Alexandria, VA, Oct. 22-23, 2019.
W Badawy	Books published: The BEET Guide, paper pack ISBN 978-1-989040-26-3, January 2019 The Genius of Selling from the Stage, paper pack ISBN 978-1- 989040-24-9, ebook ISBN 978-1-989040-25-6. January 2019 Judge and Jury member of the “Bioinformatics Got Talent” – which is the first public Bioinformatics Competition and workshop in Egypt and MENA area, held at Nile University on 24th of August 2019 Founder, Design and Facilitator, "Career Path Mastery - Discover your strength, Setup your Goals and Master your time through Journaling" delivered twice in 2019. Training workshop for TA on Student Communication and Engagement, delivered in 2019 Training workshop for Faculty Member on Communication and Engagement, delivered in 2019 “Introduction of Academic and Research Activity - Exploration workshop on Artificial Intelligence research in Behaviour and Content Engagement, Nile University, Egypt, August 27, 2019 Patents Filed: TITLE OF INVENTION: A method and apparatus for Behavior Emotion Engagement Trigger Egyptian Patent Office 2- TITLE OF INVENTION : A method and apparatus for Behavior Emotion Engagement Trigger Chatbot Egyptian Patent Office 3- TITLE OF INVENTION :A method and apparatus for update firmware and program system without interruption of work Egyptian Patent Office 4- TITLE OF INVENTION : A method and apparatus for detection, identification, segmentation, characterization and response using integrated cognitive biase driven deep neural network (CBDN) Egyptian Patent Office
G Sobelman	Completed a 2-week Fulbright Specialist Program project at Chiang Mai University in Chiang Mai, Thailand, during August, 2019
A Korotkov	Chapter Chair of Circuits and Systems Society (CAS04), Chapter code: CH08390, St. Petersburg, Russia

4. TC Significant Technical Leadership and Innovations

- 1) Three Members of CASS Board of Governors:
 - a. An-Yeu (Andy) Wu; Xinmiao Zhang; Hanho Lee
- 2) Distinguished Lecturer / Visitor Program: Gerald Sobelman
- 3) IEEE Journal on Emerging and Selected Topics in Circuits and Systems:

- a. An-Yeu (Andy) Wu, EiC; Joseph Cavallaro, Sen. Ed.
- b. Special Issue edited by members: Chuan Zhang, Christoph Studer
- 4) OJCAS Special sections edited by members:
 - a. OJCAS Special Section on Circuits, Systems, and Algorithms for Beyond 5G and towards 6G; Co-Organized by Liang Liu, Chuan Zhang, and Christoph Studer, (Call for papers
 - b. OJCAS Special Section on Edge AI and Accelerators; Co-Organized by Xinmiao Zhang,
- 5) Representatives to Other Societies, Councils and Publications:
 - a. Council on RFID, Joseph Cavallaro
 - b. UK AI Council, Maire O'Neill